



**To: Executive Deans
Heads of School
Emeritus Professors
Life Fellows
Pro-Chancellor *et al***

22 February 2020

Duncan Dowson CBE, FRS FREng

Colleagues will be sorry to learn that Emeritus Professor Duncan Dowson, former Pro-Vice-Chancellor of the University and Professor of Engineering Fluid Mechanics and Tribology in the Faculty of Engineering, on 6 January 2020.

Born and educated in his beloved North Yorkshire, Duncan first joined the University as an undergraduate in the Department of Mechanical Engineering, completing his BSc in 1950, His subsequent doctoral study at Leeds examined cavitation in lubricating films, an area which would remain of interest to him throughout his career. His PhD, supervised by the then Head of Department, Professor (later Sir) Derman Guy Christopherson, was awarded after only two years' study.

After two years with the Whitworth Aircraft Company, Duncan returned to the University as a Lecturer in December 1954, where he spent the rest of his career, being appointed Senior Lecturer in 1963, Reader in 1965, and Professor of Engineering Fluid Mechanics and Tribology in 1966. He was also awarded a D.Sc. at Leeds in 1971.

Duncan was a world class engineering scientist, considered to be the father of Tribology in the UK. His achievements can be split into two broad areas, elasto-hydrodynamic theory and biotribology. In the former field, he developed models to predict the lubrication of bearings when existing elasto-hydrodynamic theories were not working accurately, described as 'the major event in the development of lubrication science'; and in the latter, he conducted pioneering work on the design of joint prostheses that supported the development of the total hip replacement by Sir John Charnley in the 1960s. He also helped to found the Bio-Engineering Group for the Study of Human Joints and the now annual Leeds–Lyon Symposium on Tribology

Duncan's publications were numerous and widely relied upon, and he published over 600 scholarly articles during his career. His eminence in both his fields was recognised by the conferment of honorary degrees from UK, European, and Canadian institutions and numerous awards. These included, *inter alia*, the British Society of Rheology Gold medal in 1969, several awards from the American Society of Mechanical Engineers recognising outstanding papers and his skill as a lecturer (between 1975 and 1998), the Tribology Gold medal in 1979, the James Alfred Ewing Medal in 1988, the Institute of Mechanical Engineers 150th anniversary gold medal in 2000 and the James Watt International Gold Medal in 2001. Duncan was elected Fellow of the Royal Academy of Engineering in 1982, and Fellow of the

Royal Society in 1987. He remains one of only a handful of Life Fellows of the Institution of Mechanical Engineers and holds a similar accolade from the American Society of Mechanical Engineers. Duncan was awarded the CBE in the 1989 Birthday Honours list for his outstanding contribution to mechanical engineering.

Duncan was extremely active in professional bodies and societies. He was made Director of the Institute of Tribology from 1967 to 1986 and President of the Institution of Mechanical Engineers in 1992. In addition, the Duncan Dowson prize of the Institution of Mechanical Engineers is named for him. He was also in great demand as a visiting lecturer within the UK and internationally, and was a member of the BP Technical Advisory Board and, following his retirement, a Consultant to DePuy International and the City and Guilds of London Institute.

Despite his formidable external commitments, Duncan remained throughout his career a dedicated and popular teacher, whose humour enlivened many a lecture and seminar, and who, through his generosity and the application of his unfailing good sense, was able to mentor and encourage so many students and colleagues. He undertook with great distinction a number of senior roles within the University, including Pro-Vice-Chancellor (1983-85, in those far-off days when the University had only a single PVC); Chairman of the Committee on Development (1984-91), Head of the Department of Engineering (1987-92), and Dean of International Relations (1988-93).

Duncan retired in 1993-94. His research continued, however, as did his close involvement with many other aspects of University life, including, latterly, through membership of the University Court. He will be remembered by former students and colleagues alike with respect and with real affection.

The funeral service took place on Thursday 30th January. As a mark of the University's esteem, the flag on the Parkinson Building was flown at half-mast on the day of the funeral.